



WOMEN AND MINORITY OWNED BUSINESSES AS DEPARTMENT OF DEFENSE

SUPPLIERS: CHALLENGES AND OPPORTUNITIES

GRADUATE RESEARCH PAPER

Terrence R. Kilgore, Lt Col, USAF

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Wright-Patterson Air Force Base, Ohio

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Terrence R. Kilgore

Lt Col, USAF

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Terrence R. Kilgore, BS, MA

Lt Col, USAF

Committee Membership:

Major Benjamin Hazen, PhD.

Chair

Major Timothy Breitbach, PhD.

Member

ABSTRACT

This research employed a Systematic Literature Review (SLR) method to examine the challenges and opportunities presented to Women and Minority Owned Businesses (WMOB) as Department of Defense (DOD) suppliers. Data obtained from the Federal Procurement Data System (FPDS), DOD Acquisition System, Small Business Administration (SBA), as well as additional literature sources served as the foundation for this research. In addition, this research analyzed federal legislation enacted between 1 January 1983 to 31 December 2018, which aided and/or hindered the competitive standing of WMOBs as DOD suppliers. In particular, this SLR examined government enacted procurement reform, which aims to increase WMOB solicitation, but often delivers undesirable results. Furthermore, this research also identifies possible unknown opportunities for WMOB advancement, as well as potential areas warranting additional research.

The DOD's attempt to streamline its acquisition process, while competitively positioning WMOBs often delivered conflicting results in terms of eliciting participation from WMOBs. Notably, several initiatives fostered positive reform in one particular area, while simultaneously delivering undesired results in other areas. This is epitomized by the DOD continuously exceeding government required set-aside percentages for WMOBs. This initiative fostered WMOB growth, but was subsequently undermined by the Federal Acquisition Streamlining Act (FASA) and the DOD's Small Business Graduation (SBG) program. Overall, the DOD supports WMOBs, but many of its initiatives deliver counterproductive results.

*To my wife. Thank you for both supporting me and taking care of our children during this
adventure, I love you!*

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Terrence R. Kilgore

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List of Abbreviations

1. DAU.....Defense Acquisition University
2. DCMA.....Defense Contract Management Agency
3. DOD.....Department of Defense
4. FASA.....Federal Acquisition Streamlining Act
5. FPDS.....Federal Procurement Data System
6. GAO.....General Accountability Office
7. GSA.....General Services Administration
8. IMPAC.....International Merchant Purchase Authorization Card
9. Non-Milspec..... Non-Military Specification
10. NDAA.....National Defense Authorization Act
11. NDRI.....National Defense Research Institute
12. SAT.....Simplified Acquisition Threshold
13. SBA.....Small Business Administration
14. SCM.....Supply Chain Management
15. SLR.....Systematic Literature Review
16. WMOB.....Women and Minority Owned Businesses

WOMEN AND MINORITY OWNED BUSINESSES AS DEPARTMENT OF DEFENSE SUPPLIERS: CHALLENGES AND OPPORTUNITIES

I. Introduction

What terms comes to mind when you think of Women and Minority Owned Businesses? Are the terms: small, underfunded or limited in capacity? To a large degree these terms are accurate. Women and Minority Owned Businesses (WMOB) often lack the experience, resources and necessary capital to effectively compete with larger and more established suppliers. In turn, larger businesses' inherent advantage in gaining Department of Defense (DOD) contracts limits the roles and opportunities available for WMOBs, subsequently reducing their competitiveness as DOD suppliers (Cohen, 2018:238-239). This is unintentionally reinforced by a series of federal guidelines enacted to streamline the DOD's acquisition process (Stricker, 2004:26). In short, WMOBs lack the required means to effectively compete as DOD suppliers, limiting both their growth and roles within this realm. This is the *focus of this research and its problem statement*.

To solidify the importance of increased WMOB participation within the DOD's supplier enterprise, this research will begin by illustrating two of its benefits. They are:

1. Amplification of the DOD supplier pool
2. Economically empowering a known disadvantaged community

Each benefit will be detailed in the following section.

First, increased WMOB solicitation would increase the DOD's supplier pool. In turn, the DOD would immediately gain access to additional suppliers, which often drives down cost, while simultaneously increasing product quality (WBENC, 2015:1). In short,

the DOD could gain better quality products at a reduced cost when additional, and more diverse, suppliers participate in its vendor pool. Second, increased WMOB solicitation would boost the fiscal standing of a known disadvantaged community, enabling its economic empowerment and subsequent self-sufficiency (Ram, 2006:80). To emphasize the importance of these benefits, an additional examination of two key concepts was accomplished. The concepts are:

1. The roles of WMOBs in supply chain operations
2. The importance of diversity in organizational performance

Below is a concise summation of the findings:

The Roles of WMOBs in Supply Chain Operations

The vast majority of women and minority suppliers are small businesses solicited for basic commodities and services (administration, construction, building and grounds maintenance and food related support). Thus, WMOBs often provide non-technical expertise (SBA Section 809, 2018:174). The following table, obtained from the Small Business Administration illustrates this fact.

Table 1: DOD Obligations to Small Businesses by Product Service Code

Total FY 2017 DOD Obligations (for total obligations more than \$100 million)

PSC and Description	Small business USD obligations	Percent small business
PSC Y1BF: Missile system facilities construction services	\$121.8 million	98.9%
PSC 4220: Marine lifesaving and diving equipment	\$1.69 billion	97.6%
PSC Z2EB: Maintenance buildings repair and alteration services	\$152.2 million	93.9%
PSC 8915: Fruits and vegetables	\$100.1 million	93.5%
PSC Z1LB: Highways, roads, streets, bridges, and railways maintenance services	\$107.7 million	89.9%
PSC AC32: Ships applied research and exploratory development defense systems R&D	\$109.1 million	89.7%
PSC Z2EZ: Other industrial buildings repair or alterations services	\$119.9 million	86.7%
PSC Z1JZ: Miscellaneous buildings maintenance and services	\$217.2 million	85.0%
PSC AD22: Other applied research and exploratory development defense R&D services	\$144.5 million	84.5%
PSC Z1AZ: Other administrative facilities and service buildings maintenance services	\$261.1million	83.1%

Source: SBA, 2018

Discovering this led to the question, “Why are WMOBs often underrepresented as technical suppliers?” An additional literature review illustrated two contributing factors. First, WMOBs are often small and lack the fiscal requirement for advanced technical research and product development (Ram, 2006:80). Second, large scale organizations often establish long-term partnerships with well-established technical suppliers. Thus, they are often reluctant to “break away” from a proven “provider” to undertake a smaller, more risk centric supplier (Ram, 2006:80). Understanding this led to a review of the second key concept: “The importance of diversity in organizational performance”.

The Importance of Diversity in Organizational Performance

Employee diversity often plays a pivotal role in an organization’s ability to not only understand its customer base, but to better serve it. This is accomplished by leveraging the diverse perspectives of its employee pool who can inherently relate to their customer base, deliver optimal service, and subsequently posture the organization for success. Thus, diversity harnesses the full potential of an organization’s talent pool (Kochan, 2003:5).

So, how does diversity effect the DOD’s supplier pool? Endless articles detailed DOD diversity initiatives, but significantly less literature illustrated the effect of diversity within the DOD’s acquisition system. This highlighted an area *under-reported* by current academic study, fostering the development of the following research question, “What challenges and opportunities do Women and Minority Owned Businesses encounter as Department of Defense suppliers?” To address this question, a comprehensive examination of federal laws and initiatives aimed at increasing WMOB competitiveness (as DOD suppliers) will be analyzed. In particular, the foundation of this research will focus upon public laws, the Federal Acquisition Streamlining Act (FASA), DOD

Subcontracting Mandates, Small Business Graduation and the DOD Mentor-Protégé Program.

The purpose of this research is three-fold. First, it will identify challenges that limit WMOB competitiveness. Second, it will pinpoint economic, legislative and demographical opportunities afforded to WMOBs. Lastly, it will attempt to uncover areas where additional research may be warranted. By research conclusion, the idiosyncrasies, patterns and trends which perpetuate WMOB limitations will be comprehensively understood. To facilitate this, a Systematic Literature Review (SLR) will be used as the research methodology. Examining the competitiveness of women and minority suppliers within the DOD requires qualitative research. Thus, this SLR will be qualitative in nature. The following section provides a definitive explanation of the SLR process, as well as its application within this research.

II. Research Method Overview

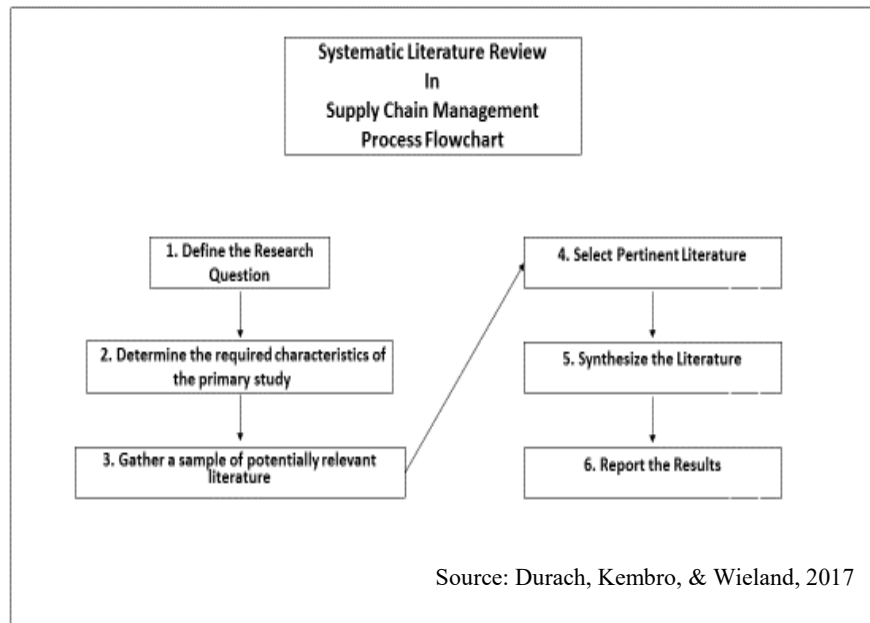
Systematic Literature Review (SLR)

A Systematic Literature Review (SLR) is a comprehensive summation of published literature regarding a specific research topic. Although commonly employed within health care and social studies, SLR's have no defined research boundary (Brereton, 2007). In turn, an SLR's limitless research potential enables its use in virtually any discipline, but its most notable advantage is its ability to map out published findings to validate, or refute existing outcomes, while simultaneously identifying areas where additional analysis may be warranted (Brereton, 2007:1, Kofod-Petersen, 2014:1).

Durach, Kembro and Wieland's (2017) SLR method was used as the basic framework for this research. An SLR's unique ability to uncover the idiosyncrasies, divergent disciplines and permeable boundaries of Supply Chain Management (SCM) makes it paramount for this study. Below are Durach, Kembro and Wieland's six SLR steps, followed by a flowchart created for their illustration:

1. Define the Research Question
2. Determine the required characteristics of the primary study
3. Gather a sample of potentially relevant literature
4. Select pertinent literature
5. Synthesize the literature
6. Report the results

Table 2: Flowchart illustrating Durach, Kembro and Wieland's (2017) SLR Process



The following section will define each SLR step for the context of this research, describing how each step was operationalized.

III. Systematic Literature Review

Define the Research Question

Correctly defining the research question is paramount in authenticating its requirements and purpose. Thus, establishing a framework which reflects the relationship between key concepts and the research topic is critical (Durach, Kembro and Wieland, 2017:10). This research's introduction examined two key concepts, which furnished a basic understanding of the value of diversity, as well as the roles of WMOBs within supply chain operations. This fostered the development of the before-stated research question, which is, "What challenges and opportunities do Women and Minority Owned Businesses encounter as Department of Defense suppliers"? Thus, the relationship between this SLR's key concepts and its research topic are evident. From here, we proceed to Step 2: Determining the Required Characteristics of the Primary Study.

Determine the Required Characteristics of the Primary Study

Study content and quality are solidified during this step. This entails the comprehensive development of the research inclusion and exclusion criteria, which in turn mitigates research bias (Durach, Kembro and Wieland, 2017:11). In short, this step establishes the research boundaries.

This SLR's inclusion and exclusion criteria are detailed below. Each criterion will be individually illustrated, then accompanied by a concise explanation of its importance to this research.

Inclusion Criteria.

Inclusion Window: This research included any published literature illustrating or analyzing the DOD's supplier selection and retention process over a thirty-five year period

(January 1, 1983 to December 31, 2018). The broadness of this research window ensured a comprehensive body of literature. In turn, this was paramount for trend identification, as well as pattern analysis, both of which were essential in uncovering any synergetic relationships within this research.

Primary Literary Sources: A variety of literary sources were selected for this SLR. In particular, scholarly articles, journals, charts, tables, and government research which illustrated DOD contracting processes or federally enacted initiatives which influenced the positions or competitive standing of WMOBs as DOD suppliers. This furnished a sizable literary range, fostering the level of *literary-diversity* essential for research bias mitigation.

Additional Literary Sources: Credible literature from non-government entities, which impacted the competitive standing of WMOBs as DOD suppliers were also included. They increased the before-mentioned *literary-diversity*, subsequently expanding upon idiosyncrasy identification, as well as the credibility of this research.

Exclusion Criteria.

Exclusion Window: Any literature published outside of the inclusion window (January 1, 1983 to December 31, 2018) was excluded. This ensured a comprehensive and relevant research scope, while simultaneously preventing the body of literature from becoming unwieldy.

Non-relevant Literature: Literature which fell within the inclusion timeframe, but was not clearly related to, nor illustrated influence within the DOD's supplier selection process was excluded. This ensured that all selected entities contributed to this research.

Non-credible Literature: Any and all information not in published form, nor originating from a credible source was also excluded. This was paramount in the

mitigation, if not negation, of research bias, while simultaneously increasing research integrity.

In short, all information contained within this SLR influenced (directly or indirectly) the position of WMOBs as DOD suppliers within the established timeframe. The following section details this SLR's third step: Gathering a sample of potentially relevant literature.

Gathering a sample of potentially relevant literature

This step entails searching for a body of literature via a combination of key words extracted from the research question, while staunchly adhering to the criteria established in step two (Durach, Kembro and Wieland, 2017:12). All gathered information must reflect the intent, terminology and definition of the research question. This is essential in preventing research bias (Durach, Kembro and Wieland, 2017:12).

A combination of librarian consultations and reliable databases were utilized to gather applicable literature. In particular, the Air Force Institute of Technology's D'Azzo library enabled limitless access to scholarly search engines such as: Ebsco, Explora, Google Scholar and Full Text Finder. From here, carefully selected search terms were employed to search multiple databases. The initial result was an extensive body of literature (over 6,000 articles). Thus, a refinement of the "search terms" was employed, delivering an improved, yet slightly cumbersome body of literature. The refinement process was repeated until the pool of literature resembled the research question, originated from a diverse body of sources, and was within the established inclusion/exclusion timeframe. An additional multiple database comparison was accomplished to identify overlapping articles, as well as potential synergy from related, yet different literary

sources. The end result was a “comprehensive” collection of literature. The initial “search words” used in this study were: Challenges, Women, Minority, Suppliers, Vendor, Contractors, DOD, Advantage, Disadvantaged, Marginalized and Competition. After refining the search results, the “search terms” evolved to include: Subcontracting, Public Law, Small Business Administration, Small Business Graduation, Set-Asides, Section 8a, Section 809, Contract Bundling, Mentorship and Protégé. Below are a few examples of search-term combinations employed during the research process:

- Challenges, Women and Minority Businesses, DOD
- Advantage, Women and Minority vendors, DOD
- DOD, Women and Minority Contractors
- Minority vendors, DOD
- Minority suppliers, DOD
- Minority vendors, competition, DOD
- Women contractors, competitive, DOD
- Small business, disadvantaged vendors, DOD
- Socially disadvantaged contractors, military
- DOD subcontracting, minorities and women
- DOD Mentorship program
- Public Law, 100-656, 99 -661
- DOD, Set-Asides
- Small Business Administration, 8a
- Small Business Administration, Section 809

- Small Business Graduation

Again, the above word combination and subsequent search furnished a “comprehensive” collection of literature. Step four of this SLR will be detailed in the following section.

Pertinent Literature Selection

This step solidifies the importance of step two. This is where the established inclusion/exclusion criteria are unwaveringly applied to the “comprehensive” collection of literature (Durach, Kembro and Wieland, 2017:13). To reduce selection bias, the exclusion criteria is first employed. This hones the body of literature. Next, the inclusion criteria is applied via reading article abstracts. This validates article relevance (Durach, Kembro and Wieland, 2017:14). Moreover, the idiosyncrasies of SCM necessitate a more comprehensive application of the inclusion/exclusion criteria. Thus, this research’s literature selection began with an extensive reapplication of the established exclusion criteria. First, each articles timeframe was scrutinized. If an article fell outside of the established timeframe it was automatically excluded. This was accomplished even if an article’s analysis began before January 1, 1983, but ended within the inclusion window. For example, an article that analyzed women and minority DOD suppliers from June 1982 – January 1996 was excluded. In addition, all articles that did not originate from a credible source (academic journal, government report, government research, university studies/analysis, etc.) were also excluded. Thus, the literature reviewed for this research originated from US Government agencies, US Government articles, congressionally initiated studies, accredited universities, academic journals and noteworthy research bodies

(RAND Group, 809 Panel, etc.). This furnished a “tighter fitting” subset of literature. From here, the inclusion process was initiated.

Application of the inclusion criteria began by meticulously analyzing both the abstract and conclusion of countless articles. If the article appeared relevant, then the entire article was schemed over to determine its value. If relevance was substantiated, then it was selected for this SLR. The end result was a reliable, yet reduced literary subset, more commonly known as a “synthesis sample” (Durach, Kembro and Wieland, 2017:12). From here, step five was accomplished: Synthesizing the Literature.

Synthesizing the Literature

This step refines the initial theoretical framework based upon evidence gathered from the synthesis sample. Thus, this step analyzes the selected literature and expands upon the original key concepts and research question. An initial synthesis indicates that the US Government, and most notably the Department of Defense, enacted several initiatives to both streamline the federal procurement process, as well as advance the standing of WMOBs. Unfortunately, several of the initiatives contained uncalculated shortcomings, making it somewhat disadvantageous for WMOBs to either change their supplier roles or expand as a business. Table three illustrates the literature subset synthesized during this research. It is followed by a comprehensive analysis of the literature.

Table 3. Listing of synthesized literature employed during this SLR

	Reviewed Literature		
Author and Year	Title	Included in SLR	Reason for Exclusion
Brereton et al., 2007	Lessons for Applying the Systematic Literature Review Process Within the Software Engineering Domain	Yes	
Brown and Girth, 2018	Examining Small Business Set Asides: Evidence and Implications for Small and Mid-Sized Suppliers in Federal Procurement	Yes	
Cohen, Hunter and Sanders, 2018	New Entrants and Small Business Graduation in the Market for Federal Contracts	Yes	
Defense Acquisition University, 2017	Acquisition Encyclopedia	Yes	
Dilger, 2015	Small Business Mentor-Protégé Programs	Yes	
Durach, Kembro and Wieland, 2017	A New Paradigm For Systematic Literature Reviews in Supply Chain Management	Yes	
Government Procurement, 2000	Vendor Database Promotes Small Business	No	Lacked overlapping data from additional sources to validate or refute article findings
Kochan et al., 2003	The Effects of Diversity on Business Performance: Report of the Diversity Research Network	Yes	
Kofod-Petersen, 2014	How to do A Structured Literature Review in Computer Science	Yes	
Koprince, 2018	DOD Small Business Contracts Dropped 70% Since 2011	No	Limited information reflecting WMOB influence
Lambert et al., 1996	Developing and Implementing Supply Chain Partnerships	No	Limited relationship to WMOB's as DOD Contractors
Moore et al., 2008	Enhancing Small Business Opportunities in the DOD	Yes	
Morgan, 1997	DOD's Acquisition Revolution: Impact On Minority Business Contracting	Yes	
Public Law 112-239, 2013	National Defense Authorization Act of 2013	No	This law vaguely addressed key women & minority challenges and opportunities.
Ram, 2006	Supplier Diversity and Minority Business Enterprise Development: Case Study Experience of Three US Multinationals	Yes	
Reardon & Moore, 2005	The Department of Defense and Its Use of Small Businesses	Yes	
Stricker, 2004	The Effects of Department of Defense Acquisition Reform on Women Owned Small Businesses and Small Disadvantaged Businesses	Yes	
U.S. Government: Government Accounting Office (GAO), 2017	Minority and Women Owned Business Contracting: Analysis of DOD Contract Awards Fiscal Years 2010 - 2016	Yes	
US Government, 1988	Public Law 100-656	Yes	
US Government, 1989	Public Law 99-661		
US Government, 1997	Small Business Reauthorization Act of 1997	No	A more recent and up-to-date version was employed in this review
US Government, 2007	Small Business Act of 2007	Yes	
US Government, 2017	Small Business Administration: Table of Small Business Standards	Yes	
US Government, 2017	US Senate Committee on Small Business and Entrepreneurship	Yes	
US Government, 2018	Small Business Administration: Section 809 Panel: Streamlining and Codifying Acquisition	Yes	
US Government, 2018	General Services Administration	Yes	
Williams, 2017	DOD Mentor Mentor Program	Yes	
Women's Business Enterprise National Council, 2015	Huge Benefits for Businesses (WBENC Suppliers)	Yes	

A comprehensive review of the above subset was accomplished to gain a understanding of the challenges and opportunities encountered by WMOBs as DOD suppliers. Nine initiatives were examined, four of which lacked the extensive and/or

overlapping literature required for an effective SLR. Below are the five remaining initiatives. They are:

- Public Laws 100-656 and 99-661
- The Federal Acquisition Streamlining Act (FASA)
 - o Contract Bundling
 - o Lowered Small Business Purchase Thresholds
 - o Encouraged use of Non-military specification (non-milspec) Items
- Subcontracting Mandates
- Small Business Graduation
- Mentor-Protégé Programs

The following section will detail each initiative, presenting both its purpose and subsequent effect (positive or negative) upon WMOBs.

Public Law 100-656.

The US Government recognized the importance of small businesses, notably women and minority owned businesses (commonly defined as: socially and economically disadvantaged businesses). This was undoubtedly confirmed by Section 8 of Public Law 100-656, which reads:

It is therefore the purpose of section 8(a) to: (A) promote the business development of small business concerns owned and controlled by socially and economically disadvantaged individuals so that such concerns can compete on an equal basis in the American economy (Public Law 100-656, 1988:4).

Socially and economically disadvantaged individuals are defined below:

The term small business concern owned and controlled by socially and economically disadvantaged individuals' shall mean a small business concern—
(i) **which is at least 51 per centum owned by one or more socially and economically disadvantaged individuals**; or, in the case of any publicly owned

business, at least 51 per centum of the stock of which is owned by one or more socially and economically disadvantaged individuals; and
(ii) whose management and daily business operations are controlled by one or more of such individuals.

The contractor shall presume that socially and economically disadvantaged individuals include Black Americans, Hispanic Americans, Native Americans, Asian Pacific Americans, and other minorities, or any other individual found to be disadvantaged by the Administration pursuant to section 8(a) of the Small Business Act.

The term 'small business concern owned and controlled by women' shall mean a small business concern—

- (i) which is **at least 51 per centum owned by one or more women**; or, in the case of any publicly owned business, at least 51 per centum of the stock of which is owned by one or more women; and
- (ii) whose management and daily business operations are controlled by one or more women (SBA, 2007: 129).

The critically of these government proclamations were further emphasized by

Section 501 of Public Law 100-656, which mandated that government set aside

percentages be awarded to small businesses, to include WMOBs. Section 501 reads:

(1) The President shall annually establish Government-wide goals for procurement contracts awarded to small business concerns and small business concerns owned and controlled by socially and economically disadvantaged individuals. The Government-wide goal for participation by small business concerns shall be established at **not less than 20 percent** of the total value of all prime contract awards for each fiscal year. The Government-wide goal for participation by small business concerns owned and controlled by socially and economically disadvantaged individuals shall be established at **not less than 5 percent** of the total value of all prime contract and subcontract awards for each fiscal year. Notwithstanding the Government-wide goal, each agency shall have an annual goal that presents, for that agency, the maximum practicable opportunity for small business concerns and small business concerns owned and controlled by socially and economically disadvantaged individuals to participate in the performance of contracts let by such agency. The Administration and the Administrator of the Office of Federal Procurement Policy shall, when exercising their authority pursuant to paragraph.

(2), insure that the cumulative annual prime contract goals for all agencies meet or exceed the annual Government-wide prime contract goal established by the President pursuant to this paragraph" (Public Law 100-656, 1988:29).

Public Law 100-656 not only encourages, but provides a means for WMOB success as government suppliers. This was further emphasized by Public Law 105-135, which increased the previous 20 percent mandate to 23 percent, while maintaining WMOB five percent set-asides. The DOD's support of WMOBs was substantiated with Public Law 99-661 (National Defense Authorization Act of 1989).

Public Law 99-661.

The National Defense Authorization Act (NDAA) of 1989 was enacted upon the establishment of Public Law 99-661. NDAA mandated that the Department of Defense also set aside five percent of its procurement funding for WMOBs. Section 1207 of the NDAA reads:

Sec. 1207. Contract Goals For Minorities

(a) GOAL.—Except as provided in subsection (d), a goal of 5 percent of the amount described in subsection (b) shall be the objective of the Department of Defense in each of fiscal year for the total combined amount obligated for contracts and subcontracts entered into with: (1) small business concerns, including mass media, owned and controlled by socially and economically disadvantaged individuals (as defined by section 8(d) of the Small Business Act (15 U.S.C. 637(d)) and regulations issued under such section) ... (Public Law 99-661, 1989:159).

Public Law's 100-656 and 99-661 proved the U.S. Government recognized the disadvantages faced by WMOBs. The question is, "Has the DOD meet its five percent mandate?" The challenges of achieving this goal will be presented in the following sections, beginning with the Federal Acquisition Streamlining Act (FASA).

Federal Acquisition Streamlining Act (FASA).

FASA was implemented as a result of massive DOD budget cuts fostered by the fall of the Soviet Union (Stricker, 2004:20, Morgan, 1997:5). Enacted to streamline the federal government's acquisition process, FASA immediately reduced contracting bureaucracy, yet it also negatively affected WMOBs. In particular, its implementation of

Contract Bundling, a Simplified Acquisition Threshold (SAT) and the DOD's new preference for commercial items (non-military specification) epitomize FASA's negative effects. Let's begin by examining Contract Bundling.

Contract Bundling can be defined as:

The consolidation of two or more procurement requirements for goods or services previously provided or performed under separate, smaller contracts into a solicitation of offers for a single contract that is **unlikely to be suitable for award to a small business concern** (Stricker, 2004:27, Moore, et. al, 2008:19).

In short, Contract Bundling is the merger of a series of small contracts, previously reserved for small/WMOBs into a single large contract, often too large for their solicitation. Moore, et al., solidified this when they stated, "If the DoD were to consolidate ten annual contracts with ten small businesses into one contract with one small business, the total amount of DoD dollars going to small businesses may not change, although the number of contracts issued to small businesses and the number of small businesses receiving such contracts would be reduced tenfold" (Moore et al., 2008:23).

Depending upon the contract requirement, it's probable that the contract would be awarded to a large firm. An analysis of contract bundling contends that nearly half of the DOD's prime contract funding is executed via contract bundling, with large businesses receiving approximately 67% of all DOD procurement funding, as well as 74% of all "bundled" capital (Moore et al., 2008:1, Stricker, 2004:38). As earlier stated, public laws and the DOD only apportions five percent of its procurement funding for WMOBs. Thus, contract bundling directly impacts WMOBs as DOD suppliers. In addition, FASA also implemented a Simplified Acquisition Threshold (SAT). The following section details this initiative.

FASA's Simplified Acquisition Threshold (SAT) modified the DOD's previous small business purchase mandate of \$0 - \$25,000, to \$2,500 - \$100,000 (Morgan 1997:6 and Stricker, 2004:24). Previously, all purchases up to \$25,000 required solicitation from small/WMOBs. Now, all contract requirements between \$2,500 - \$100,000 must be solicited from small/WMOBs. This increase appears advantageous. Unfortunately, SAT was riddled with unforeseen consequences. In particular, it introduced the International Merchant Purchase Authorization Card (IMPAC). IMPAC encouraged the use of large commercial vendors, able to mass produce lower priced, high quality products, with no contracting mandates (for purchases up to \$2,500). In turn, this eliminated a sizeable portion of small contracts previously reserved for small/WMOBs (Morgan 1997:6 and Stricker, 2004:24). Based upon purchase volume, during IMPAC's second year in operation, small/WMOBs loss \$1.4 Billion (Morgan, 1997:6). In addition, IMPAC encouraged the purchase of commercial equipment (non-milspec), eliminating the DOD's ability to mandate subcontracting percentages be awarded to small/WMOBs (Stricker, 2004:24). Thus, SAT (to include IMPAC purchasing) illustrate an additional consequence of FASA's implementation.

To summarize, FASA's enactment streamlined the DOD's acquisition process, subsequently increasing the contract threshold for small businesses, to include WMOBs. Unfortunately, FASA also delivered a series of uncalculated, yet quantifiable losses. In fact, its implementation of Contract Bundling, SAT and the encouragement of non-milspec purchases may have mitigated previous small/WMOB gains. Yet, there's still hope. The DOD's subcontracting mandate, and its effect on small/WMOBs will be detailed in the next section.

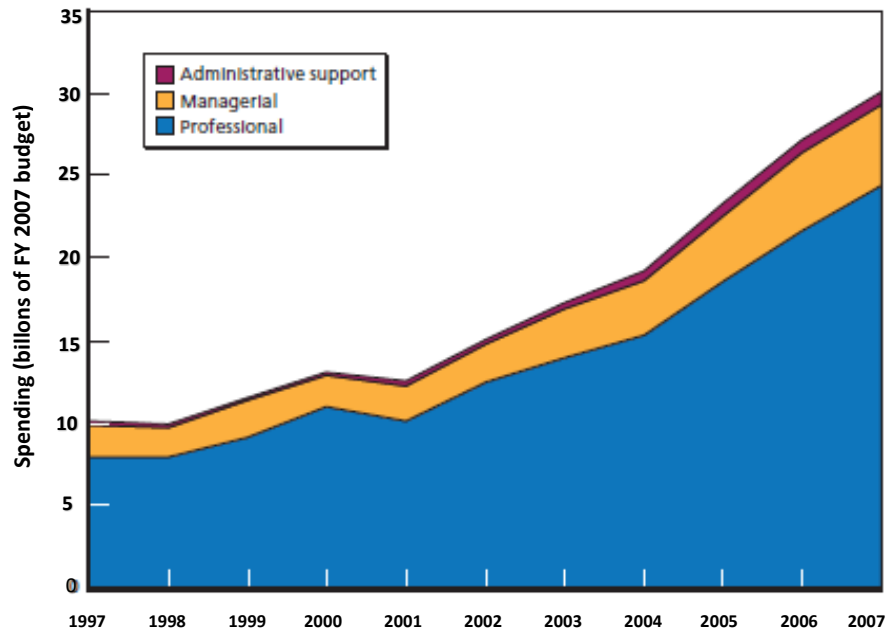
Subcontracting Mandates.

Subcontracting occurs when a government prime contractor awards a contract to another company (the subcontractor) to perform part of, or all of the prime contractor's obligations under the agreed upon contract (DAU, 2017). To caveat, the Federal Acquisition Regulation (FAR) requires large businesses (awarded a large prime contract) to submit a subcontracting plan for each solicitation, or contract modification that exceeds \$700,000. This modification requires subcontracting with small/WMOBs (GSA, 2018).

Mandated subcontracting is standard practice within the DOD. In fact, depending upon the contract type, most DOD contracting agencies require that large businesses receiving bundled contracts, subcontract a portion of their award to small/WMOBs (Moore et. al, 2008:29, Stricker 2004:49). This process is often considered fruitful, as larger businesses find working with smaller firms less cumbersome, with smaller firms often contributing to larger firms via the creation of new technology (Reardon & Moore, 2005:33, Moore et al., 2008:30). Between 1989 and 2007, approximately 34 to 43 percent of DOD subcontracting funding was allocated to small/WMOBs (Moore et al., 2008:29, Stricker, 2004). Table 4 illustrates 1997 – 2007, DOD Prime Contract spending (awards) via Professional, Managerial and Administrative Support Services (PMA). This is followed by Table 5, which illustrates 1997 – 2007, DOD Prime Contracting spending to small and WMOB's via Professional, Managerial and Administrative Support Services (PMA). Table 6 presents the DOD's specific solicitation of WMOB as subcontractors from FY 1989 – FY 2006. The table timeframes and analysis overlap, highlighting small/WMOB growth via the DOD's contracting/subcontracting initiatives.

Tables 4: DOD Prime Contract Awards to Professional, Managerial and Administrative Support Services

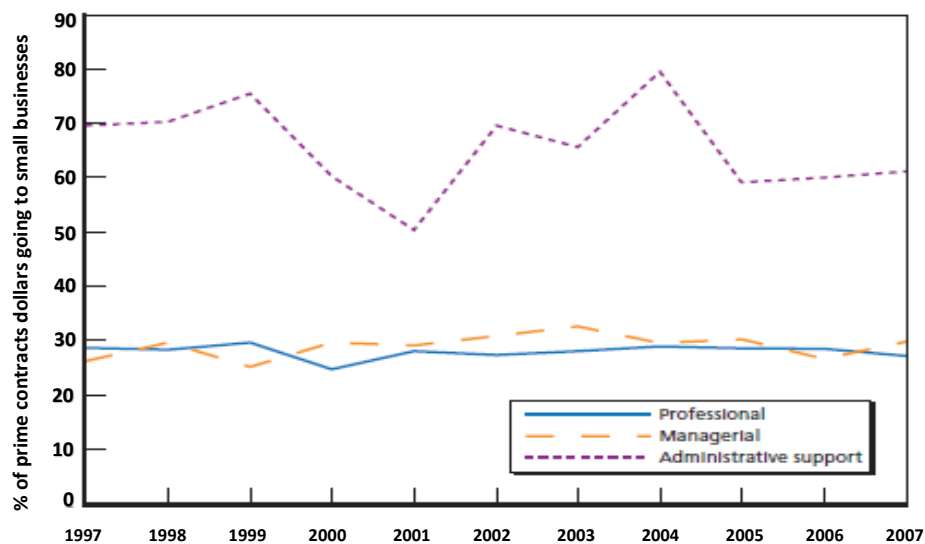
DoD Prime Contracts Spending on Professional, Managerial, and Administrative Support Services, FY 1997 to FY 2007



Moore et al., 2008

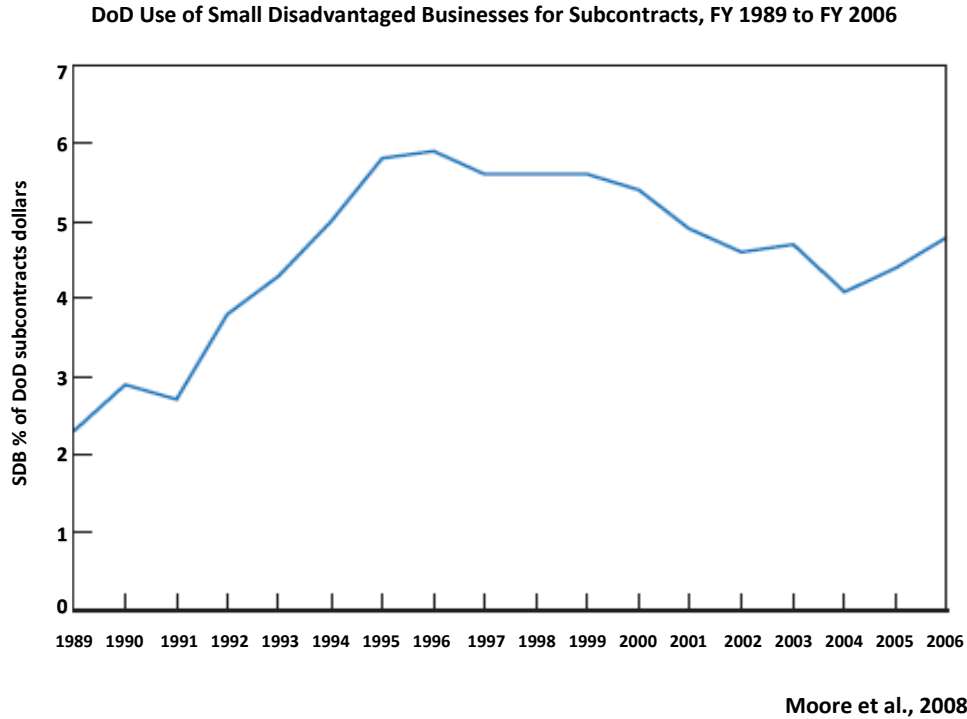
Table 5: DOD Prime Contracting Awards to small/WMOB's via Professional, Managerial & Admin Services

Small-Business Share of Prime Contract Dollars for Professional, Managerial, and Administrative Support Services, FY 1997 to FY 2007



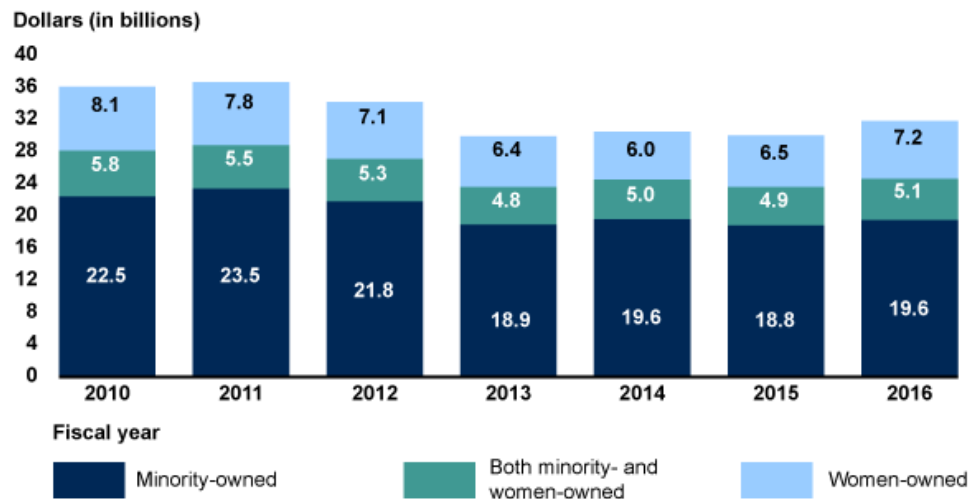
Moore et al., 2008

Table 6: DOD’s use of WMOB as subcontractors from FY89 – FY06



Of note, Table 5’s administrative spending peaked at 80 percent, followed by Table 6’s small/WMOB subcontracting rate peaking at 6 percent (1996), while hovering near 5 percent thereafter. These figures illustrate the DOD’s commitment to meeting congressionally mandated support of small/WMOBs. Furthermore, more recent data strengthens this argument. Section 809 of 2017’s NDAA illustrates that from fiscal years 2010 to 2016, the DOD awarded small/WMOBs 444,000 contracts at a value of \$230 Billion (GAO, 2017:1). Although there’s a near 1% decrease from peak year 2010, to end year 2016, once again the DOD either met or exceeded its congressional mandate (see Table 7).

Table 7: DOD contract spending on women & minority businesses



Source: GAO analysis of Federal Procurement Data System-Next generation. GAO-18-195R

In addition, Section 809 detailed that 23% of the contracts awarded to small/WMOBs were for support activities, with nearly the remaining 77% being service centric (GAO, 2017:4). This simply reaffirms WMOBs are service centric vendors. Impressively, the DOD’s FY 2017 contracting target was set at 22 percent for prime contracting to small businesses, with an additional five percent set aside for women owned businesses, coupled with an additional five percent earmarked for minority owned businesses. This was separate from its 34 percent subcontracting goal reserved exclusively for small/WMOBs (Brown & Girth, 2018:256, Section 809, 2018:174).

Aggressive targeting of this nature highlights the DOD’s sincerity in affording small/WMOBs an opportunity to advance within its supplier arena. Moreover, even these noteworthy achievements can be overshadowed by an unforeseen shortcoming. The following section will discuss the nuances and reluctance of small businesses to graduate as DOD suppliers.

Small Business Graduation.

A comprehensive review of small business graduation by DOD suppliers was a slight challenge. Yet, the literature reviewed indicates that relatively few small DOD suppliers ever graduate beyond their small business status (Moore et al., 2008:5, Brown & Girth, 2018:254). The establishment of set-aside programs and subcontracting goals posture small businesses for growth. Furthermore, the threshold for small business graduation is both relatively low and attainable. In fact, the Small Business Administration threshold listing highlights the ease at which a small business can quickly graduate in size. For example, depending upon the contracted service, the small business threshold for contracted support ranges from \$5.5 Million to \$38 Million (SBA, 2017:33). Thus, the award of one or two notable contracts could easily facilitate small/WMOB size graduation. Unfortunately, the loss of government mandated set-asides, coupled with gaining a non-competitive standing (upon threshold graduation), is a disincentive for small/WMOB business growth (Section 809, 2018:176, Brown & Girth, 2018:261). One such disincentive is the loss of subcontract consideration.

Again, the DOD mandates that large companies subcontract a portion of their prime contract with small/WMOBs. Yet, if a small/WMOB loses its small business status, then long standing subcontracting relationships (with large firms) must be terminated. The loss of income, coupled with the large firm's termination of a reliable partner is a disadvantage for both parties (Moore et al., 2008:69). In addition, once small/WMOBs graduate, they are usually positioned at the low end of the "mid-sized" business threshold. In-turn, they are forced to compete with larger, more well-established industries (i.e., Booz Allen Hamilton, Lockheed Martin, etc.), rendering them non-competitive (Section 809,

2018:177, Moore et al., 2008:69). This was solidified by the Chairman of the House Small Business Committee when he stated, “after a small business has proven its success by growing out of its small size standard, it exists in a murky limbo. It is too large to benefit from small business set-asides, yet is too small to compete with billion-dollar firms” (Representative Steve Chabot, U.S. Small Business Committee, 2017:1). Thus, many small businesses elect to remain small. In turn, they often solicit contracts which provide financial growth, yet stop short of size graduation (Brown and Girth, 2018:260, Section 809, 2018:177 & Moore et al., 2008:10). Table 8 details Brown and Girth’s analysis of 977 small business suppliers from 2005 to 2017. It illustrates that approximately 59 percent of small businesses, to include WMOBs, which received set-aside benefits in 2005, remained within the small business threshold in 2017, with less than five percent actually graduating in size (Brown and Girth, 2018:260).

Table 8: DOD Small Business Graduation, 2005 - 2017

Description of supplier activity	Number of suppliers
Contract activity for all years	303
One year with no contract activity	71
Two or more continuous years with no contract activity	312
Irregular contract activity	291
Total	977

Source: Brown and Girth, 2018

Unfortunately, neither the SBA, nor DOD has developed a program to encourage small business graduation. Until accomplished, it is not within WMOBs best interest to grow beyond their small business threshold. Finally, the last initiative effecting small/WMOBs will be reviewed in the following section.

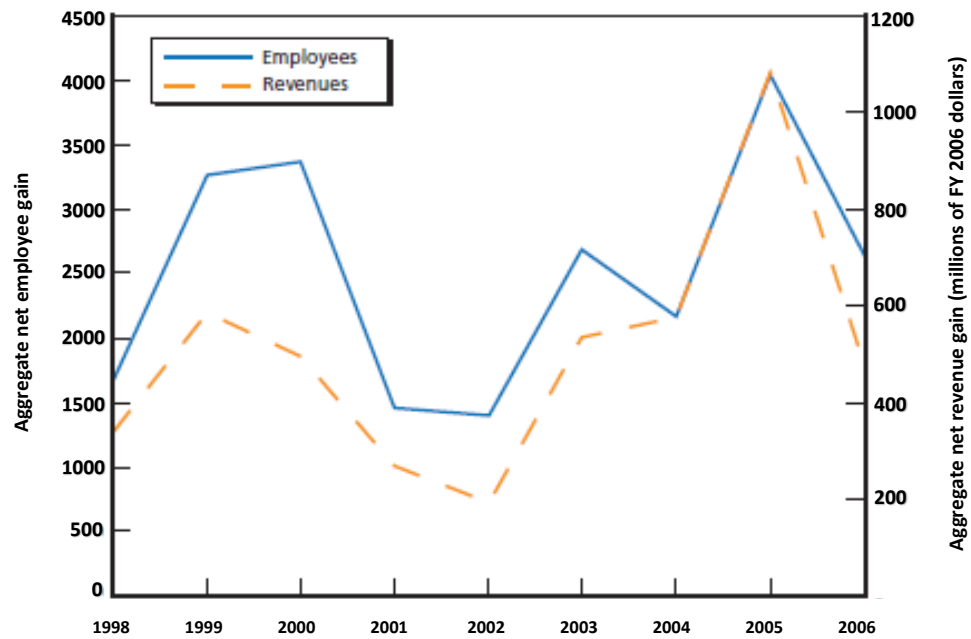
DOD Small Business Mentor-Protégé Program.

Public Law 101-510 established the Small Business Administration's Mentor-Protégé Program. Enacted to address the shortcoming of subcontractors who found it difficult to meet prime contractor requirements, this program aimed to partner large-well established firms (The Mentor) with smaller-less experienced suppliers (The Protégé) (Dilger R, 2015, Williams, 2017 & Moore et al., 2008). Yet, unlike other government agencies, the DOD's application of this program focuses solely on assisting protégé firms in obtaining and performing as DOD subcontractors. As previously stated, the DOD mandates subcontract solicitation with small/WMOBs. Thus, a sizeable portion of the protégés within this program are WMOBs. Reviewed data confirms that both mentors and protégés view this program positively. The protégé firm often gains invaluable experience, financial assistance and exposure to the DOD marketplace, with mentoring firms gaining credit for meeting subcontracting goals, as well as reimbursement of capital invested during the mentorship process (Dilger R, 2015:1 & Moore et al., 2008:51). In addition, both organizations capitalize upon the smaller firm's ability to produce cutting edge technology faster than larger firms (Section 809, 2018:175 & Moore et al., 2008:51).

The Defense Contract Management Agency's (DCMA) Mentor-Protégé Program office annually reviews and assesses program performance. Table 9 details the positive revenue gains by protégés (1998 – 2006), with Table 10 illustrating the number of Mentor-Protégé agreements from 2000 – 2006.

Table 9: Employment and Revenue Gains for DOD Protégés

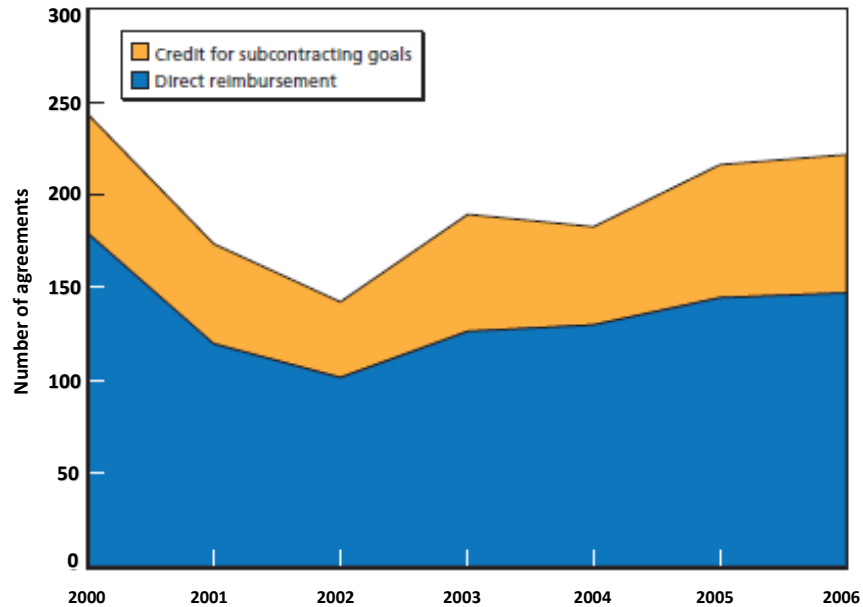
Aggregate Employment and Revenue Gains for Protégé Participants, FY 1998 to FY 2006



Source: Department of Defense Office of Small Business Programs (annual), 2008

Table 10: DOD Mentor-Protégé Agreements

Mentor-Protégé Agreements, by type, FY2000 to FY 2006



Source: Department of Defense Office of Small Business Programs (annual), 2008

Tables 9 and 10 illustrate this programs success. In addition, the majority of protégés graded this program as “highly satisfactory” with an overall 93% positive rating (Dilger, 2015:15 & Moore et al., 2008:53). As of February 2015, the program had 65 active Mentor-Protégé agreements, with the DOD earmarked to invest \$26.2 Million in FY 2015, followed by an additional \$30.1 Million in FY 2016 (Dilger, 2015:15). This is reinforced by Congress’s decision to extend program execution throughout 2018 (Dilger, 2015:15). The only notable research shortcoming is a lack of information for FY’s 2017 and 2018. Regardless, the DOD’s commitment to this program is proven, with its continued support paramount for future success.

The opportunities and challenges encountered by WMOBs as DOD suppliers are substantial. In fact, the benefits appear to be offset by many of the consequences. The following section will execute this SLR’s final step: *Reporting the Results*. This will be accomplished via a concise summation of each initiative, accompanied by any recommended courses of action or possible areas warranting additional research.

Reporting the Results

The challenges and opportunities encountered by WMOBs as DOD suppliers are apparent. A review of the literature illustrates that the consequences, to a large degree, offset many of the gains. Overall, there appears to be notable improvement among WMOBs. To illustrate this, a concise summation of each initiative, beginning with Public Law’s 100-656 and 99-661 is provided.

Public Law’s 100-656 and 99-661.

Public Law’s 100-656 and 99-661 attempted to address the shortcomings faced by WMOBs as U.S. Government suppliers. Its congressional mandate of set-aside funding

opened the door for WMOB advancement. Based upon this benefit, coupled with the limited roles of WMOBs outside of service industries, recommend additional research to determine if earmarking additional funding, coupled with non-service industry mentorship will enable WMOB increased participation in other supplier arenas.

The Federal Acquisition Streamlining Act (FASA).

The Federal Acquisition Streamlining Act (FASA) was a breakthrough initiative to streamline the U.S. Government's cumbersome acquisition process. Its enactment reduced contracting bureaucracy, while simultaneously supplying commercially developed products. Unfortunately, the implementation of Contract Bundling, a Simplified Acquisition Threshold and the increased purchase of non-milspec items delivered unforeseen, yet quantifiable consequences to WMOBs. Recommend an in-depth analysis of the amount of business lost by WMOBs (via IMPAC), in comparison to the amount gained from SAT's increased acquisition threshold. If the loss is disproportionate, mandating stateside IMPAC purchasers consider the use of small/WMOB suppliers could serve as a mitigation strategy. As a caveat, the limitation of stateside only IMPAC purchases is due to many overseas locations failing to identify local businesses as either small and/or socially disadvantaged.

Subcontracting.

The DOD's subcontracting initiative is an outstanding opportunity afforded to small/WMOBs. It addresses, and to a large degree mitigates, many of the consequences presented by FASA. Recommend an in-depth analysis and subsequent comparison of the contracting dollars awarded to small/WMOBs via the DOD's subcontracting initiative versus the potential loss due to FASA's overall implementation. This should highlight the

magnitude of both programs, as well as identify areas requiring adjustment. If necessary, recommend DOD subcontracting goals be increased to ensure actual small/WMOB competitiveness.

Small Business Graduation.

The DOD's Small Business Graduation program epitomizes "a good idea gone wrong." The establishment of feasible graduation thresholds facilitates small/WMOB growth. Unfortunately, firm "size" graduation places small/WMOBs in the very position which congressional mandates seek to overcome, subsequently disqualifying them from necessary set-asides, while simultaneously forcing them to compete with dominating firms. In-turn, small/WMOBs actively avoid "size" graduation. Thus, to a large degree, small business graduation is both counterproductive and disadvantageous to small/WMOBs. Recommend implementation of a subcontracting initiative for small/WMOBs beyond small business graduation. Similar to the previous subcontracting initiative, this would encourage small/WMOB growth and incentivize large firm participation, while simultaneously meeting congressional equal opportunity intent.

DOD Mentor-Protégé Program.

The DOD's Mentor-Protégé Program highlights a successful business development initiative. Program results illustrate great potential, with larger firms profiting via protégé innovation, while smaller firms receive invaluable guidance, experience and market exposure. Recommend this program be continued beyond Fiscal Year 2018. In addition, recommend elements of this program be merged with tenets of the DOD's subcontracting initiative to better address the disadvantageous nature of the DOD's Small Business Graduation program. If correctly executed, the positive aspects of both programs could

alleviate small/WMOB self-inflicted growth limitations, while fostering their economic advancement.

Limitations and Future Research

This research accomplished an exhaustive examination of a diverse literary body. Although comprehensively executed, several limitations were encountered. These along with a recommendation for future research are detailed below.

Limitations.

This research's most significant limitation was obtaining *credible* literature regarding several initiatives. As earlier stated, nine initiatives were considered, with four failing to have the extensive body of literature required for this SLR. One initiative in particular, was the DOD's funding of Research, Development, Test and Evaluation (RDT&E) programs that are not focused upon scientific and medical research. These programs are commonly referred to as "*other RDT&E*", and often encompass small/WMOBs. Limited literature indicates that the DOD's funding of *other RDT&E* programs has remained stable (as of 2009). However, a lack of comprehensive, and current research, negated its inclusion in this SLR.

Last, a current (and thorough) analysis of small/WMOB payments via the Defense Finance Accounting Services (DFAS) Electronic Commerce (E-commerce) system would be extremely beneficial. Previous research indicates a host of issues related to this system regarding small/WMOBs. Notably, DFAS pays an inconvenience fee (a percentage of the amount owed) to suppliers who receive late payments. Thus, larger businesses owed larger payments receive priority. In turn, small/WMOBs are often paid late, stressing their existing funding challenge.

Future Research.

This SLR highlighted multiple gaps where additional research is warranted. Most notably, future research should focus on, “The overall capital loss suffered by WMOBs due to FASA’s SAT implementation.” As earlier suggested, this research must be based upon the amount loss due to IMPAC’s implementation compared to any capital gained via small/WMOBs contract threshold increase. This is key in determining SAT’s true effect. Second, future research should also focus on the rate of Small Business Graduation by WMOBs as DOD suppliers. This is paramount in identifying, as well as addressing, the counterproductive effect of this initiative. Last, future research should focus upon any potential synergetic outcomes resulting from a merger of the positive aspects of the DOD’s Subcontracting mandate and its Mentor-Protégé program. This course of action could also mitigate several of the shortcomings experienced by FASA.

IV. Conclusion

To conclude, women and minority owned businesses encounter a host of challenges and opportunities as DOD suppliers. Public laws, acquisition streamlining initiatives and set-aside programs illustrate the DOD's attempt to increase WMOB competitiveness. Yet, these measures have delivered mixed results. Notably, the gains realized from public laws and set-aside programs were undercut by acquisition streamlining initiatives.

Thus, the question to be addressed is, "What challenges and opportunities do WMOBs actually encounter as DOD suppliers?" Again, five initiatives were examined, three of which illustrated valid opportunities. In particular, Public Laws 100-656 and 99-661's mandated support and set-aside percentages opened the door for WMOB solicitation as DOD suppliers. In addition, DOD Subcontracting mandates, coupled with its Mentor-Protégé program, provide the addition support paramount for continued WMOB growth. Unfortunately, these opportunities are somewhat offset by the two remaining initiatives. Notably, FASA (Contract Bundling, SAT and the encouragement of commercial asset purchasing) challenge previous WMOB gains. This was further catalyzed by the ease of small business graduation, which ironically, undermines WMOB advancement. Overall, the outcome appears positive, with two previously mentioned courses of action potentially mitigating identified shortcomings. They are:

1. A merging of the positive aspects of the DOD's Subcontracting and Mentor-Protégé programs to address FASA's consequences
2. Recommend an in-depth examination and possible increase in WMOB set-aside percentages

If correctly researched and implemented, WMOB's lack of experience and capital could be addressed, subsequently increasing their roles and competitive standing amongst larger firms.

Regardless of the course of action taken, a detailed analysis of likely outcomes, projected costs, and most importantly, potential second and third order effects must be identified before any action is chosen. This is paramount in preventing another set of initiatives which foster unforeseen, but very real consequences. Nevertheless, the DOD's attempt to level its supplier field, highlights its awareness and drive to effectively position WMOBs for competitive solicitation. Although falling short of its desired intent, the DOD is vanguard in providing opportunity and advancement of this socially and economically disadvantaged subset of America's business enterprise.

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14. ABSTRACT This research employed a Systematic Literature Review (SLR) method to examine the challenges and opportunities presented to Women and Minority Owned Businesses (WMOB) as Department of Defense (DOD) suppliers. Data obtained from the Federal Procurement Data System (FPDS), DOD Acquisition System, Small Business Administration (SBA), as well as additional literature sources served as the foundation for this research. In addition, this research analyzed federal legislation enacted between 1 January 1983 to 31 December 2018, which aided and/or hindered the competitive standing of WMOBs as DOD suppliers. In particular, this SLR examined government enacted procurement reform, which aims to increase WMOB solicitation, but often delivers undesirable results. Furthermore, this research also identifies possible unknown opportunities for WMOB advancement, as well as potential areas warranting additional research. The DOD's attempt to streamline its acquisition process, while competitively positioning WMOBs often delivered conflicting results in terms of eliciting participation from WMOBs. Notably, several initiatives fostered positive reform in one particular area, while simultaneously delivering undesired results in other areas. This is epitomized by the DOD continuously exceeding government required set-aside percentages for WMOBs. This initiative fostered WMOB growth, but was subsequently undermined by the Federal Acquisition Streamlining Act (FASA) and the DOD's Small Business Graduation (SBG) program. Overall, the DOD supports WMOBs, but many of its initiatives deliver counterproductive results.					
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